

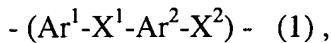
TERAHARA et al.
Appln. No. 10/682,515
Response

AMENDMENTS TO THE CLAIMS

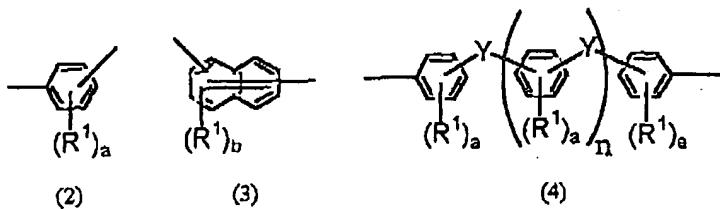
This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A block copolymer comprising at least one segment having an acid group and at least one segment substantially free from an acid group, wherein the segment having an acid group comprises a repeating unit which is a substituted repeating unit represented in the formula (1) with an acid group,



and in the formula (1), X^1 and X^2 being each independently -0- or -S-, Ar^1 and Ar^2 being each independently an aromatic group selected from the groups represented by the following formulae (2) to (4),



wherein, R^1 is a halogen atom, a hydroxyl group, a nitrile group, a nitro group, an amino group, an optionally substituted alkyl group with a carbon number of 1 to 10, an optionally substituted alkoxy group with a carbon number of 1 to 10, an optionally substituted aryl group with a carbon number of 6 to 10, or an optionally substituted aryloxy group with a carbon number of 6 to 10, m is an integer of 0 to 4, and n is an integer of 0 to 6, in a case of plural R^1 , R^1 may be the same or

different, or be bonded to each other, Y is a direct bond, -O-, -S-, an optionally substituted alkylene group with a carbon number of 1 to 6, or an optionally substituted alkylenedioxy group with a carbon number of 1 to 6, and n is an integer of 0 to 2, in a case of plural Y, Y may be the same or different, and in a case where both of X¹ and X² are -O-, both of Ar¹ and Ar² being not the group represented by the formula (2).

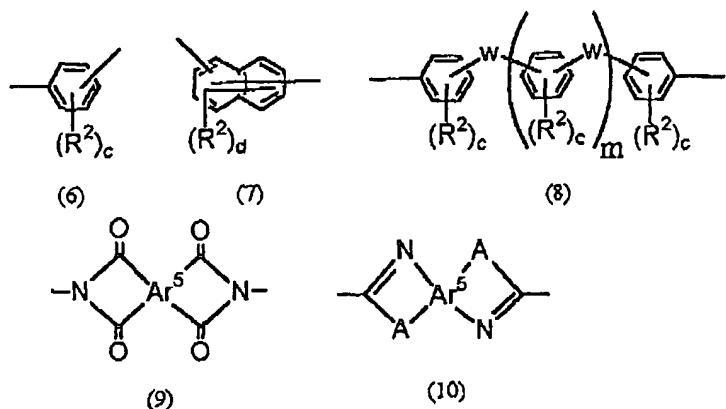
2. (original): The copolymer according to Claim 1, wherein the acid group is a strong acid group or a super strong acid group.

3. (previously presented): The copolymer according to Claim 1, wherein X¹ and X² are -O-.

4. (previously presented): The copolymer according to Claim 1, wherein the segment substantially free from an acid group comprises a repeating unit represented by the following formula (5),

- (Ar³-Z¹-Ar⁴-Z²) - (5),

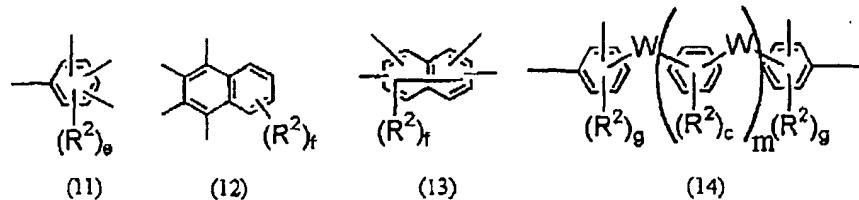
in the formula (5), Z¹ and Z² each independently representing direct bond, -O- or -S-, and Ar³ and Ar⁴ being each independently an aromatic group selected from the groups represented by the following formulae (6) to (10),



wherein, R^2 is a halogen atom, a hydroxyl group, a nitrile group, a nitro group, an amino group, an optionally substituted alkyl group with a carbon number of 1 to 10, an optionally substituted alkoxy group with a carbon number of 1 to 10, an optionally substituted aryl group with a carbon number of 6 to 10, or an optionally substituted aryloxy group with a carbon number of 6 to 10, c is an integer of 0 to 4, and d is an integer of 0 to 6, in a case of plural R^2 , R^2 may be the same or different, or be bonded to each other, W is a direct bond, $-O-$, $-S-$, $-CO-$, $-SO_2-$, an optionally substituted alkylene group with a carbon number of 1 to 6, or an optionally substituted alkylenedioxy group with a carbon number of 1 to 6, m is an integer of 0 to 2, in a case of plural W, W may be the same or different, A is $-O-$, $-S-$, or $-NR^3-$ in which R^3 is a hydrogen atom or an optionally substituted alkyl group with a carbon number of 1 to 10, two of A may be the same or different, Ar^5 is an aromatic group selected from the groups represented by the following formulae

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(11) to (14)



where, R^2 , W and m are the same as the above, e is an integer of 0 to 2, f is an integer of 0 to 4, and g an integer of 0 to 3.

5. (original): A polymer electrolyte comprising the copolymer according to Claim 1.
6. (original): A polymer electrolyte membrane comprising the polymer electrolyte according to Claim 5.
7. (original): A catalyst composition comprising the polymer electrolyte according to Claim 5.
8. (original): A fuel cell comprising the polymer electrolyte membrane according to Claim 6.
9. (original): A fuel cell comprising the catalyst composition according to Claim 7.